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ABSTRACT

The Matthews Stress Management formula is a stress management model for use in schools. This effective, practical, and inexpensive model entails the awareness of the physiology of stress, perception of tangible bases of motivation for children, appropriate and simplified techniques, applicability to other areas, and full recognition of the position, function, and implementation of relaxation skills. The model's formula has four factors--awareness, benefits, change, and dependency--which result in relaxation. Qualified personnel, who are sensitive and aware of individual needs and community demands and requirements, should administer or supervise the program. School officials and teachers must work closely and carefully with the parents of children in the program. Through the Matthews Stress Management formula, students can gain confidence, acquire poise, and shape aggressiveness to positive ends, conquer anxiety and timidity, and enjoy new feelings of worth and wellness. (CB)

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STRESS MANAGEMENT MODEL FOR THE ELEMENTARY/MIDDLE/HIGH SCHOOL

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STRESS MANAGEMENT MODEL FOR THE ELEMENTARY/MIDDLE/HIGH SCHOOL

After many years of independent research and study among school children over a wide range of accomplishments and potentialities, there has emerged a viable tool for essential stress management at that level: The Matthews' Stress Management Formula. That stress management becomes an imperative from the outset in the experience of the growth and development of the child is now obvious; obvious, too, is the need for a good stress management program to continue with the child on a year-by-year basis. As other skills and applications proceed along with the addition of books, exercises, and apparatus as the child advances from level to level, the skills and applications of stress management can and should develop in parallel fashion. Similarly, just as the teacher and parent can monitor tangibly and intangibly the academic progress of a student over the years, so these concerned people can monitor the progress of the child's ability to manage stress. More importantly, with a good program, the children will be able to test their own abilities and establish good patterns and procedures that will not only lengthen their lives but also provide improved quality and hope instead of a path of self destruction or feeling of inadequacy, failure, and futility.

That a stress management program begin as early as possible and remain continuous are based upon two facts (Woolfolk & Lehrer, 1984): (1) children learn new techniques as well as or faster than adults; and (2) stress management is a life skill, suitable for both present and future. If the future is to be long and advantageous, the earlier a child starts the better and the more important continuous implementation, that is, practice, becomes.

The life skill is then not only possible, but also real and evidence now exists in abundance for its need. Newspaper, radio, and television accounts tell only part of the story. There are family pressures, for example, with both parents working and the resultant latchkey children who early show symptoms of anxiety; there are single parent homes and the question of roles; there are the strife and insecurity attendant and subsequent to divorce; there is the disorientation associated with serial marriages--adjustments often impossible to children despite appearances; and there are the inevitable and sometimes traumatizing adjustment problems of becoming part of a blended family. American affluence for some families has brought on a British institution of long standing but of questionable worth in bonding parents and children--the nannie. A nannie, a force for good or ill, makes her appearance via American versions of the Nannie School. While such positions as the nanny will create a new market for jobs as segments of the economy expand, the children of America have yet another adjustment with which to try to cope.

Meanwhile, back at the school, the student there tries to cope with peer and academic pressures. Students must worry about doing well upon standardized tests imposed by well-intentional advocates of the return to basics. Instruction in the basics presumes and emphasizes traditional teaching styles, such as lecturing and listening attentively to it, and activities involving paper and pencil exercises. Those students whose learning style has been manipulative and visual will feel lost and behind. Those children who are left-handed once again may feel themselves outsiders and somehow inferior. The truth is, of course, that students learn best with a variety of styles--tactile, such as writing and handling different objectives; active, such as doing role playing, peer teaching, creating, counting on the fingers, moving the lips and subvocalizing; auditory

activities involving the varied forms of listening; and visual, such as the employment of pictorial media, the use of diagraming, employment and explanation of charts, and the utilization of the various devices of the imagination (Buzan, 1974; Houston, 1980; Springer & Deutsch, 1981; Sinatra & Stahl-Gemake, 1983).

Pressure results from technological change. The more accelerated the change the greater the pressure; we may have the adventure and science of space travel, but a common computer has the power to change traditional ways tangibly and rapidly. Creations such as microchips and diskettes are changing the structures and services of libraries. Because of the familiar information explosion, a doubling at least every 5 years instead of within the old-fashioned 7 of a short time ago, the child encounters a shift of emphasis to process skills at the expense of knowledge skills. One must know where and how to find information rather than try to retain most of it. There is then a pressure for accuracy in processing the information electronically provided. Change in and of itself, therefore, not only produces tension in the faculty who must undergo frequent retraining but also produces transmitted tension in their students.

The results of such stress may gain wide publicity in some spectacular instances; the observant teacher, however, sees symptoms much more frequently and widely. There are, for example, behavorial problems in high numbers. Parents, too, frequently notice them. The Phi Delta Kappan Opinion Poll (Gallup, 1984) about schools still reports that failure in discipline is the major problem parents and community perceive. In addition, more children than ever before take prescribed medication for hyperactivity or explosive behavior (Walton, 1979); more young people are involved in illegal drug abuse (Spencer, 1979); and absentee rates on account of sickness rise because stress weakens the resistance of the body to disease (Stress, 1984).

The results carry over to later years where statistics indicate a sharp rise in teenager and child pregnancy, alcoholism, prostitution, participation in pornography, venereal disease, truancy, and illiteracy (Spencer, 1979; Towarnicky, 1985). The most pronounced and publicized effect is suicide (Brody, 1984), now the second leading cause of death among young people. Only accidents take more lives, but many of these apparent coincidences are actually a form of suicide, now understood in part by psychologists. In the past decade the suicide rate has risen 100 per cent. Most of the aware public have read about the epidemics of suicide in New York and Texas schools (Edelson, 1984), with corresponding feelings of pain, guilt, and grief of parents. As of now, well trained physicians, dentists, health educators, and classroom teachers can detect and deal with such symptoms; the supply, however, does not yet meet the escalating demand.

It would seem apparent, therefore, that means, now accessible with a minimum of trouble, can come into the schools. Officials with parental assistance can now implement a model necessary from the earliest years continuing on until stress management becomes a life--and life saving--skill.

The Stress Management Model

A stress management model is, of course, necessary in some form since to be effective it must integrate with the total curriculum in a seemingly natural and inevitable fashion. Field work and experimentation have led to the Matthews Stress Management Formula for school utilization, which will be effective, practical, inexpensive, and acceptable to most parents. The model entails the awareness of the physiology of stress, perception of tangible bases for motivation for the involved children, a call for appropriate and simplified techniques, dependency upon transposition from

one area of application to another, and full recognition of the position, function, and implementation of relaxation skills. One may posit the formula as follows: A + B + C + D = R. The letters, for the sake of convenience in memorizing, may briefly represent A for Awareness; B for Benefits; C for Charge; D for Dependency; and R for Relaxation.

The A factor is that of a recognition of the physiology of stress--not an elaborate study for most, perhaps, but essential in its detail to those in planning positions. The B factor deals with the benefits, which must initially be sold to the children and their parents: There should be little difficulty in demonstrating immediately what the happy results will be to the children themselves. The C factor, or charge, involves the more complex notion of wholism, a matter easily enough taught if taken in stages and practiced continuously and regularly. D suggests the dependency on the transfer of the skills to practice. The R result--relaxation--is a cumulative effect, a measurable result, and yet a continuing obligation or awareness of that obligation. Another definition might indicate a person in control of life--the ability to alter onset, duration, termination, or pattern of an event.

An important concept in dealing with this model, called the Matthews Stress Management Formula, is that of total curriculum involvement. However one chooses to integrate the formula into the curriculum, personnel involved must apply with commitment and understanding. The procedures are relatively painless to master and implement. Perhaps the greatest struggle involves the changing of routine and habit.

Now it is possible to go into A, B, C, D, and R in detail.

Awareness of the Physiology of Stress

The type of Awareness involved in A does not necessarily mean formally structured classes or units in physiology as such: planners

can design them into the curriculum in high school through a number of content areas, such as health, physical education, psychology, biology, and other individual courses; the student in Elementary/Middle School can encounter Awareness areas in such places as health, physical education, social studies, and periods of homeroom or advisee/advisor encounters, particularly in guidance sessions. All teachers should participate, not just those in health.

Examples of content about the physiology of stress that children need to know are those concerning the functioning of the automatic nervous system with its two operational components, the sympathetic (excited) state of arousal; and the parasympathetic (relaxed) state, having to do with the condition of rest, healing, routine physical repair, and regeneration. The sympathetic is responsible for the increase in heart rate, blood pressure, body metabolism, breathing rate, and blood flow to the muscles. The parasympathetic controls decreases in heart rate, blood pressure, body metabolism, breathing rate, and blood flow to muscles. Hans Selye (1974) has identified the general adaptation syndrome with components of the alarm state, resistance, and exhaustion.

Even kindergarten students can respond to demonstration of feedback devices and understand the psychophysiological principle or mind/body relationship, which holds that for every change, in large numbers of people, that takes place inside the body there is a corresponding mental/emotional change. Conversely, for every mental/emotional change there is a corresponding physical change. Kindergartners understand biofeedback and learn about temperature, blood pressure, and the control of the body by the brain. They can take wrist or finger temperature, gauge moisture in the hand, and interpret, in their way, EEG, that is, alpha brain waves (8-12 cycles per second).

The professionals will know that the autonomic nervous system is controlled by complex links between the higher centers of the cortex of the brain and the lower centers in the limbic system. Some of the actions of the autonomic nervous system are voluntary, that is, under conscious control and others are involuntary, that is, under unconscious control. Most children will already be familiar with the last aspect of their bodies and readily make the transfer.

Students and teachers alike need to remember that not all stress is negative and harmful. For example, a team sport activity would lose zest without some spirit of competition and the recognition of some benefit of participation. To be productive, the human being needs some stress. Some artists, particularly writers, are notorious for not addressing tasks until forced. Hans Selye (1976) says that there are two stress reactions--eustress (good stress) and distress (harmful stress). That stress can have a positive effect is reflected in performance data in achievement scores on standardized tests, and higher retention and lower expulsion rates.

Currently, research is proceeding to determine the kinds and degree of stress in the schools (Matthews, 1985). The secret of capitalizing upon eustress would seem to be helping the child find the optimum level of functioning for productivity, whether Type A or B behavior.

In summary, depending upon the age of the child, the first ingredient of the Matthews' formula, an awareness of stress, requires different techniques for full participation in this promising area.

Benefits of Stress Management

B is for the Benefits of Stress Management, the second portion of the formula. Children need to know what is in the activity for them. A simple illustration often suffices. The primary benefit is a healthy

body in all its facets--mental, physical, emotional, and social. A compendium of research (Woolfolk & Lehren, 1984) suggests that optimal stress levels produce exhilaration, high motivation, mental alertness, high energy, improved memory and recall, sharp perception, and calmness under pressure.

The writer's research (Matthews, 1982; Matthews, 1984) among children which focused on alpha and other types of relaxation training showed improved self-management skills, improved self-concept, and improved achievement with the use of the techniques--all apparent to the children themselves. Children with explosive-type behaviors seem to respond well to the procedures. One effect of the relaxation training is that it allows children to develop a "stopping technique" that they can appreciate. As children learn more self-control, they will be able to take a deep breath and relax instead of plunging thoughtlessly into a perceived difficult situation or running in panic from what seems insurmountable. Then, under calm conditions, the children will be able to decide on a more desirable, less hostile course of action. Children normally under treatment of stimulant drug therapy may also be helped by relaxation training. Several parents reported that their children who participated in relaxation training had improved so much in the reduction of hyperactive behavior that their physicians removed the drug therapy. Research (Denoff et. al., 1971) shows that stimulant drugs are indeed effective in decreasing overactivity and increasing attention span, but are less effective in the decrease of irritable, aggressive, explosive behaviors--those that tend to remain after the symptoms of hyperactivity are no longer evident.

Research would already indicate tangible benefits for children: wellness in fact or in feeling, improved interpersonal skills, improved self concepts and all the peripheral effects that may accure, improved

achievement in a variety of tasks, and the development of self management skills.

The Charge for Learning Stress Management Techniques

The C or charge factor emphasizes the learning of stress management techniques. While the basics are fairly simple to understand and practice, the applications extend to the whole person. For example, diet, exercise, and rest affect the way a person feels, whether periodically during the day or on a long-term basis. The social support network is of major importance, also: Hans Selye (Sehnert, 1981) said on one occasion that a person needs altruistic egotism, a term meaning looking out for oneself by being necessary to others and earning their good will. In addition to learning how to be of long-term productive assistance to others, the child can learn strategies in a stress management program. Such strategies are, first, and most important, emphasis upon time management (Davis, McKay, & Eshelman, 1980); cognitive restructuring (McKay, Davis, & Fanning, 1981); and learning one or more of the relaxation techniques--progressive relaxation (Jacobson, 1976), breathing (Spreads, 1978), autogenics (Luthe, 1969), visualization (Lowenstein, 1979), quieting reflex (Stroebel, 1982), or a combination of techniques including the use of biofeedback (Brown, 1977).

The charge for learning stress management techniques, then, is a clear one to which children at all levels in the school can respond, especially since children will see that their school experience is part of a totality of life, involving teachers and a wide social support system. Children will become motivated by a healthy egotism, and skilled in planning, as seen in the matter of acquiring time management facility, cognitive restructuring necessary to maturation, and mastery of at least one form of relaxation training.

The writer recommends that school planners set up a formal program to teach the three aspects. Those involved should set up a regular period that will ally itself to another logical subject: The most likely ones would be guidance, health, or social studies. The period should however,

be a special period, not confused with a larger unit. The period should be a special one during the day devoted just to the study and practice of the techniques. The counselor should coordinate the material, method, and timing with the teachers. The counselor, for instance, will be aware of medical caveats.

Time Management

Adults almost always forget that children up through adolescence are the busiest of people. Because there are so many activities during a day, time becomes precious, especially to growing and inquisitive minds. As the child grows, external demands and deadlines become additional factors with which to try to cope. If the conception of time is that of an endless series of decisions, in the conscious or sleep life, it is easy to see that any decision, large or small, is going to have its impact and gradually change the shape of life and living. The child must control the flow of life activity in the allotted 24 hours in the arbitrary day as it applies to the personal, subjective environment. According to Davis, McKay, and Eshelman (1980), inappropriate decisions not only produce frustrations, lower self esteem, and stress, but result in symptoms of poor time management. Such symptoms can be summarized as (1) unproductive rushing, (2) chronic vacillation among alternatives always perceived as unpleasant, (3) chronic fatigue or listlessness with many slack hours of non-productive activity, (4) constantly missed deadlines for routine, short-range work, (5) insufficient time for creative rest or wholesome personal relationships, and (6) the sense of being overwhelmed by demands and details. In adults, lack of time management eventually produces burnout; in children, such a lack produces damage that may well be permanent.

How does the child manage time? Is not management imposed by an adult? A child can readily learn and practice good time management. Time management for the child is a four-step process: time analysis, goal setting, priorization of goals, and action.

Time analysis. For a period of two or three days the child should have a time schedule or diary. For the very young such a work can be called My Time Diary. In it the child records, sometimes by drawings, how the child has spent the entire day--how much time was spent in dressing, eating, study, transportation, classroom activity, family chores, visits with friends, time at church or a club, evening study, night recreation, and preparation for bed. The diary, or schedule, should be broken down into clear half-hour segments, and so worded that children who have a secret life, will be able to account for that time without feeling betrayal or embarassment. At the end of the three-day period, the child with a teacher and later a concerned other adult, analyzes and categorizes the inventory to see how the child has actually spent the time. Such initial examinations are always revealing, even to the sophisticated professional. The child will see the levels of the child's friendships, for example, and what social values are at school in contradiction to those outside of school. Time spent on routine tasks will come out in prominence for examination; the child will discover low priority work, productive work, the importance of organized activity, use of the telephone, and degree of commitment to recreational activities and athletics. In the Diary will be pictures or accounts of television, conversation, hobbies, recreational reading, religious obligations and pleasure travel outside of the regular busing time, household chores, personal hygiene and grooming, daydreaming, eating, and sleeping.

Goal Setting. The second step in time management is the setting of goals. With the Diary the child will readily see where the day goes. The inventory of daily activities allows self-evaluation and assists with the setting of goals. By now, the child will face what his values are--what is truly important. With a longer time period in mind, perhaps a semester, the student makes both long and short range goals. The younger the child the shorter the range and more tangible the goal. A good way to approach goal setting is to permit the brain a broad, free range of all that is desirable and what one would really find possible to accomplish and then record the accomplishments on paper to have in concrete form. The smaller child will see what must be done--in the short range, for example, the passing of a near test. For a longer range goal, there might be the setting aside of time to earn money for a radio. While one is identifying goals, it would also be well to identify possible distractions, since the one nullifies the other. Adolescents, who are fussier than smaller children, may isolate as a short-term goal the obtaining of a specific grade in a subject, and for a long-time goal the passing of the Scholastic Aptitude Test (SAT) or earning of a letter in athletics or a prize in musical performances or dramatics. It should be clear to students at any age that distractions will interfere with the setting and achieving of goals, and that the child must reject, for example, peer pressures to go off to amusement while the task at hand remains unfinished. If the child is working on a science project, for instance, he may be able to turn the friend's visit to his own advantage as he works toward achieving the goal.

Prioritize time. Since all know that time is scarce and everyone's meeting all goals is unrealistic, the logical next step is prioritization. For a child who may be indulged, it may be a difficult matter to

try to rearrange a value-system. The effort is easier if the child actually sees the priorities. They exhibit themselves best if ranked in three columns--either in the Diary for the young child or on a form for the high school student. The three columns are: essential (must do); desirable but not essential (should do); and good but can be delayed (can do). The first set of goals become the one a person strives practically and energetically to achieve. The second and third lists of goals must lie dormant unless and until the child completes the first list.

As in the science project, the child can learn the value of delegation along the way, plus engaging in productive socializing that will be valuable practice later in life.

Action. The last step is action. Action means planning strategy to accomplish the goals and performing the tasks outlined in the strategy. For example, some high school students decorate their rooms with pennants and posters of the colleges they hope to attend. Since most people work better with small segments, the child should break down the strategy into small steps. The student will find some time each day to work on the goals deemed important. If the child is studying a musical instrument, part of this discipline will already be in place. Even rewarding oneself after completing small segments of achievement helps one stick to working toward the targeted goal. Ideal time management is effective utilization of time for personal benefit.

Suggested ways (Davis, McKay, & Eshelman, 1980) to increase the time one has for productive activity are such commitments as (1) saying no to people and other distractions that do not fit goal priorities, (2) minimizing interruptions and distractions while working, (3) estimating reasonable time for planning activities and leaving some time for unplanned

activities which inevitably occur, (4) watching little television, especially with the firm cooperation of parents, (5) getting up one-half hour earlier in the morning, (6) using wait time wisely such as observing, memorizing, or reading, and (7) cutting off non-productive activities involving non-productive other people. There are many more suggestions, but no one is too young to learn there must be some temporary disappointments in order to pay for gratifying successes later.

Cognitive Restructuring

If a person wishes to prevent excessive amounts of tension, cognitive restructuring is in order. Cognitive restructuring, or right thinking, concerns (1) examination of the interactions between events and beliefs which lead to perceptions and emotional reactions, (2) the recognition of unwarranted or negative reactions, and (3) the alteration of the perception in order to alter in turn the emotional reaction. Tension results not from the event but from the way a person perceives the event.

Object lessons in distorted thinking get responses. Older students can deal in a complex fashion with cognitive restructuring during moments suitable for creative discussion and analysis. For example, older students can ask themselves honestly why people make them angry.

McKay, Davis, & Fanning (1981) summarize 15 styles of distorted or "wrong" or faulty thinking. Briefly, the styles are:

1. Filtering: magnifying negative details and filtering out positive aspects. For example, adolescents might allow one pimple to wreck two or three days.

2. Polarization: viewing all situations and issues as black or white, good or bad.

3. Overgeneralization: making general conclusions based on small details or incidents, as, a student's excessive reactions to a principal's admonition to mean a personal dislike on the part of the principal.

4. Mind Reading: attribution of thoughts and feelings to other people without evidence. It is allied to misreading body language. For example, if someone else abruptly leaves a group the child immediately believes the action to be a gesture of dislike.

5. Catastrophizing: imagining the most disastrous results any situation might cause. The child refuses to act for fear someone else will be displeased.

6. Personalization: assumption that the actions of others are always in response to the person. The relation to paranoia here is easy to see.

7. Control Fallacies: assuming irrationally that one is either wholly responsible for a situation or totally a helpless victim of fate.

8. Fallacy of Fairness: belief in one's own opinion as fair and reasonable without understanding others whose opinion is in disagreement.

9. Blaming: projection of blame for any unpleasant event either upon oneself or others.

10. Shoulds: reliance upon a doctrinaire set of rules for behavior for all regardless of personal worths and differences.

11. Emotional Reasoning: belief that all feelings and intuitions are and must be true.

12. Fallacy of change: belief that others inevitably change as a result of the efforts and good intentions of others.

13. Global Labeling: generalization from one or two qualities of another person or group to form an overall opinion or judgement. It is related to the familiar fallacy of stereotyping.

14. Being Right: the perception, hostile in nature, that differences of opinion are personal challenges and necessarily wrong.

15. Heaven's Reward Fallacy: expectation of an eventual tangible reward for all efforts, with accompanying dejection when any reward fails to materialize.

Such distortions are fallacies that result in negative emotional interpretations of events and easy excuses to become passive or hostile. In order to restructure these detrimental and often habitual styles of thinking, the student must (1) realize that anyone can have negative emotional reactions which are unwarranted and not rational; (2) examine the personal thought patterns to see how they possibly can in fact be distorted; and (3) discern and discover new ways of thinking about the circumstances, so that the new ways will lead to positive emotions.

Cognitive restructuring, then, becomes important as an integrated part of the child's learning experience. For very young students puppeteering becomes an invaluable tool for cognitive restructuring, with the skits or dramas readily drawn from incidents in the daily lives of the children.

Relaxation Training

As previously mentioned, the techniques for achieving relaxation are varied. They are designed first to elicit the relaxation response, the opposite of the alarm state in the general adaptation syndrome. The relaxation response is characterized by decreased heart rate, muscle tension, and metabolism; lowered respiration rate; increased digestion efficiency; beneficial changes in the blood chemistry; and vasoconstriction causing the blood to flow away from the periphery of the body and

toward the trunk. The student will then recognize the alarm reaction caused by stress and elicit the relaxation response, countering the physical changes produced by alarm in order to maintain a calm, relaxed state.

Among the techniques tested and available are progressive relaxation, breathing, visualization, quieting reflex (QR), autogenics, and biofeedback.

Progressive Relaxation. The first to be recommended for active consideration is progressive relaxation, a technique based upon manipulation of muscle tension. The subject focuses on a single muscle, muscle group, or area of the body, and alternately tenses and relaxes the muscles. The subject progresses from one body area to another, usually moving from the extremities to the trunk. As each area of the body is tensed and relaxed, the child learns the feelings associated with muscle tension; as the bodily tensions go, so will the associated feelings depart. By the end of the relaxation training session, the entire body should be relaxed. An associated result will be increased blood flow to the various portions of the body, including the extremities.

Progressive relaxation is one of the simplest relaxation techniques, but since it is somewhat limited in variety the leader will need to supply interesting applications. The technique is valuable, also, as an introduction leading to other techniques.

Breathing. Breathing and the regulation of breathing are always in preparation for relaxation, the guiding of the relaxation, and reorientation after the exercise period. Although short breaths have their place, special importance must be placed on the development of the skill of breathing deeply with the diaphragm. Music and speech students know very well about the physiology and function of the diaphragm, but other people will also need to

learn about the large, muscular, flat nature of the diaphragm, its capacity and its control. Soon the student will be able to differentiate between chest, or shallow, breathing, and diaphragmatic, or deep, breathing. There is a connection between such deep breathing and the relaxation response, natural yet in need of establishment and reinforcement. During the school-wide relaxation period, the leader can demonstrate the importance of the diaphragm by having the students assume a comfortable position, preferably in a chair. The eyes are to be closed. The leader directs the subjects to be aware of their breathing, through mouth and nose, and the natural pace. All notice how associated muscles, including those in the nose, function. The leader alerts for spots of tension. Various alternative nose-mouth forms and regulations of depth and rate follow. Hands on the abdomen show muscular involvement. The leader promotes regular, deep breathing. Then the group tries holding for various counts. The leader calls attention to the feeling of warmth and the perception of the flow of energy. Students open their eyes slowly, evaluate the experience, and then repeat it; but the second time, before they open their eyes, move their limbs and hands and rotate their head, they try to imagine the end result. If the children are unaccustomed to deep breathing, they may experience the usual problems in adjustment. These adjustments are eliminated usually by a panting technique.

No relaxation exercise will be effective without recognizing the importance of breathing. The point is to synchronize inhalation and exhalation with expansion and contraction of the diaphragm.

Autogenics. Autogenics is a word perhaps not necessary to teach children, even though they will need to know the means of employing it to their advantage. Autogenics means self-generating, a high-level cognitive technique for triggering the physiological relaxation response.

It means controlling oneself by oneself. The technique combines other relaxation strategies such as imagery, deep breathing, and self-talk or self-messages. Simply, the technique of autogenics helps condition relaxation through recall of relaxed body states and memories of relaxed time in life. It is, as Shaffer (1982) points out, a type of control of the self.

The technique involves giving an instruction to one's own body, such as saying some particular limbs or digits are warm; the child repeats the instructions several times, meanwhile observing if that hand or leg has the desired sensation and the degree. Autogenic training and autogenic relaxation are not synonymous, and if one wished relaxation, the autogenic relaxation techniques are the ones to be used. If, on the other hand, the student wishes to turn around specific responses, autogenic training will be of special value. Much depends upon the depth of relaxation to be desired. In autogenic relaxation the subject simply observes carefully, though passively. Relaxation involves the giving up of control in order to exercise it.

The scheme for exercises in autogenic relaxation is similar to that employed for others: assumption of a comfortable position in some kind of support, such as a chair; loosing of the clothing and other constraints; quietness in an appropriately subdued atmosphere; preparing for passive observing of sensations that follow the instructions; breathing deeply and evenly during the commands; concluding with bodily movements to restore alertness; and, finally, ending a session with a positive suggestion such as, "As I open my eyes, I feel like new: ready to work and ready to go."

The children should repeat instructions or commands several times, with forces on the various body parts in turn, such as hands and arms, feet and legs, abdomen, breathing, heartbeat, and forehead temperature. It also helps to give oneself suggestions of peace and restorations. These feelings are to be experienced as the eyes slowly open. This experience should be followed by the performance of physical activity such as moving the hands and arms, feet and legs, and rotation of the head. The child then sits up and returns to the regular classroom activities.

Even the deep breathing occurs during recitation of the self-instructions; synchronous activities with slow exhalations provide sensations for observation and analysis. Initial itching or tingling are normal for some people. Other sensations, such as warmth, heaviness, or numbness, should not be disturbing once the leader has explained that such feelings are signs of the release of tension and the subsequent flow of relaxation. Children will fear what they do not understand, and fear will negate the exercises. In addition, persons with chronic ailments, such as gastric disorders, will respond differently, particularly when commanding the abdomen. These persons do not need warmth there, but instead the suggestion of coolness. The leader must be aware of any health problems within the group, and instruct accordingly.

Ideally, the child should practice autogenics twice daily. Expertise produces a more rapid response. In a sense, it is "relaxation on-the-go." Clever and practiced persons engage in autogenic exercises without attracting notice. A list of specific situations and their corresponding exercises helps further and can lead to productive experimentation. Children are especially remarkable for their creativity; once they have achieved command of self-instruction, they will be delighted in the power and peace that ensue.

Visualization. Since the child lives in a world of images, visualization becomes a readily accessible technique to children, yet one challenging because of the wealth of competition and alternatives. At first, the leader guides imagery after the students are relaxed; then, as the students become proficient they can produce appropriate visualization at will and as required. The counselor or teacher should be relaxed, the groups small and familiar. Each child must feel in control and free. The feeling of compulsion is absent. Atmospheric conditions are subdued, with dimmed lights, silenced telephones, closed and labeled doors, and perhaps one or two lighted candles. The children are positioned and divested of distracting and constricting clothing and accessories. The leader informs the children of the length of the exercise and the physical movements involved. Informality and free expression are the rule. The students should focus on their own imagery, but should also feel free to open their eyes to stop the experience.

With eyes closed, a possibility for visualization is an experiment in pretended androgyny, with the children imagining what it could be like to be the opposite sex--or a unisex. The girls can isolate what they most like or detest in the behavior of boys, and the boys can focus upon attractive and repulsive behavior patterns of girls. Can one improve oneself by adopting a desirable trait, such as good manners, from someone else? The children can pretend they have that attribute and how it could alter their own behavior for the better. The experience becomes most meaningful if a discussion provides a list of what the students have discovered.

Word association is crucial in visualization. One application is that of stereotyping, such as applying the blackout techniques to a word. The word should be one with connotations of relaxation rather than tension: for instance, minister is more likely to have pleasant associations than policeman to a generation conditioned to think of officers as corrupt, ignorant, and violent. Entertainer is more likely to suggest high stimulation than peace. The blackout effect is the result of an initial imagery of a period of around 15 seconds, followed by an imagined feeling of what it will be like to be such a person suggested by the word for about 50 seconds, followed in turn by a discussion to discover whether there were any changed perceptions. Again, there should be a careful evaluation to determine common images, the cause for them, the meaning of them, and the values associated with such stereotyping.

Another type of visualization exercise involves an evocative narrative--always closely associated with the children's own experiences. Very young children will respond to animal situations. High school students will relate to social situations. People from poor neighborhoods are not likely to respond freely to suggestions those students from affluent environments would accept as natural and usual. If the narrator is skillful in evoking atmosphere, the leader can quite easily transport the students. The narrative involves transmission of values and steps in altering bodily rhythms and focuses.

Other exercises, with discussion, can involve imagining trading places with animals, as in the androgynous experience. The leader guides the breathing and motor activities, with subtle value points along the way.

Or, in another exercise the students can trade places with the earth or the sun. If students live near the ocean, they can become the sea. Discussion elicits perceptions students have made about themselves. A Superman fantasy is worth a try, with the students imagining themselves accomplishing the impossible, especially some activity the child has feared to do in real life. Again, the leader guides the responses and when the students have slowly opened their eyes, directs the discussion toward the value of positive thinking before undertaking difficult tasks.

Color visualization is a possibility, but it is more difficult to do well than one would at first suppose, since all colors have an associated emotional response. A leader must allow the children as much as possible to select their own colors, stressing instead concepts such as energy or power. Energy becomes part of the movements.

A helpful exercise is to imagine an encounter with a special friend, with periods of about 1 minute allotted to each pleasant, associative activity with the friend. The directed discussion elicits the factors leading to the pleasure, the nature of having a friend, and how personal friendships give value and zest to life.

Body focus is another important area for younger children. Visualization can make students aware of the connection between aspects of the body in relation to relaxation, as the beating of the heart, the observation of the miracle of breathing, awareness of one's own energies as revealed in palms, fingers, and body heat. A picture or model of an organ, such as the brain, heart, or liver, with an explanation can launch into a pictorial search within one's own organ. Gradually the students internalize and open their eyes, to engage in the usual analytical discussion. If a transparent body model should be available, the students, after suitable

orientation, can search their own images, with focus on the breathing function. If there is no model, the children imagine themselves without skin while their eyes are closed, tracing the systems of the body, gradually emerging to breathe consciously, feel their skins, their clothing, and reaction to room temperature. Again, a discussion reinforces and analyzes.

Generally, children do not have the inhibitions about drawing that adults do, and the younger students can readily respond to a visualization exercise involving drawing body outlines showing perceptions of one's own body and locations of emotions in it. Or, there is an exercise combining sound with visualization. The students, eyes closed, identify the parts of their bodies responding to the sound. They ascribe values to their reactions. Later, the leader establishes the interrelation of the mind, body, and emotions. In another exercise, children associate a sound they make while engaged in a familiar physical activity, such as walking or climbing.

Participatory exercises involve listing stressful situations compiled from individual lists and making choices from other exercises for best eliminating the stresses. Students may be blindfolded and share their feelings and perceptions as they engage simultaneously in a group activity such as singing together. All can look at a sheet of colored paper, close eyes, and later analyze the feelings the colors produced. The leader should select "fun" colors so that the analytical discussions will stress the positive and peaceful.

A complex exercise has to do with the nature and function of pain. The purpose is to emphasize that pain is natural and desirable, that the mind interacts with pain to aid frequently in the healing process, that the brain has limitations in processing messages, that breathing exercises

help to adjust to pain, and that emotions exist for survival and adjustment. By accepting this fact, one can avoid most accidents, accept most deaths, and seek responsibility. Stress only aggravates pain.

Visualization is one of the most powerful techniques available, and perhaps the one most easily transferred to operation in other areas. In addition to being used as a separate technique in stress management, visualization is often combined with various other techniques such as autogenics and deep breathing.

Quieting Reflex. The Quieting Reflex (QR) serves as an alternative for medication, whether prescribed or otherwise, in assisting with problems related to stress. The development of the technique originated with Charles Stroebel (1982) to be transferred to children by Elizabeth Stroebel (1980). Her technique is Kiddie QR. Margaret Hollard (1980) transferred the original technique to adolescents and preadolescents, calling the technique QR for Young People.

The objective of the Quieting Reflex is to change the child's perspective. The new procedure solves the problem of low compliance and training associated with other self regulation techniques, such as transcendental meditation, progressive relaxation, and biofeedback. The other techniques still have their place, but the totality now available should appear in the school-wide curriculum.

The emergency, or fight-or-flight response, meet prevention of activation by the technique, which is simple and only requires six-seconds. The shortness helps to prevent or reverse illnesses as a result of activating the emergency response inappropriately. The QR differs from emergency response in two distinct and highly significant ways:

(1) while highly compatible with the high degree of social pressure today, it permits one to function with an alert mind inside a calm body; and

(2) after the initial learning period, QR becomes automatic, activated at the subconscious level without any bodily reaction to the emergency response.

The cue for QR is an awareness of a threat or annoyance in the environment (tension, abrasion, anxiety, alteration in breathing, followed by the precise counterpart to the first second of the emergency response, or in other words, activation of the quieting reflex itself. The child follows the following steps:

(1) Smiling inwardly with both eyes and mouth, with the autosuggestion of "alert, amused mind, gives calm body";

(2) Taking an easy deep breath;

(3) Exhaling, letting the jaw, tongue, and shoulders go limp. The subject should then feel a wave of heaviness and warmth blowing through the body from the head to the toes; and

(4) Resuming normal activity.

These steps occur at the very moment of stress; they will enable one to take control of the impact of undesirable stress on the health and assist in the avoidance of dangers of stress-related illnesses for the reminder of life.

Biofeedback. Biofeedback is especially attractive to most children because it gives them an opportunity to handle objects and participate in activities with which they can identify as experiments or monitors. Equipment will have its fascinations and the manipulations and positionings of the body may provide entertainment. Some of the equipment may be wrist or finger temperature indicators, card thermometers, galvonic skin response monitors, and use of devices for monitoring brain waves and muscle tension. These areas are significant, because they are a tangible aspect of the wholistic approach,

and may convince some children they are dealing with the real world of themselves and not just fantasies, games, or pictures.

Biofeedback is the use of instrumentation for training people in the self-regulation of psychophysiology. One sees immediately that it is different from autogenics because there is some concrete externalization involved in the use of the instruments. Researchers have discerned that there is a significant amount of voluntary control over so-called involuntary responses (Brown, 1977). Of course, anyone long interested in contortions or acrobatic dancing or other delights of the circus would long have suspected as much--at least for the performers. Now one knows the process applies to all of the population.

The simple principal of biofeedback is that awareness of body functions is the first and most important ingredient in changing the behavior that causes the stress reaction. If one learns to listen to the body, the body tells about the state of its functioning. Biofeedback magnifies tangibly the subtle signals so that the leader or the child can understand them and form conclusions or make profiles. An obvious lesson is the importantance of body language, what it is, and how it operates. Thermal measurements of the skin can indicate blood flow changes to a particular region of the body. Galvanic skin response monitors measure the amount of moisture on the skin. Measuring contractions of the skeletal muscles can detect muscle action before it reaches the state of producing pain and discomfort. Monitoring brain waves can tell much about states of consciousness and information processing which can aid in the voluntary control of consciousness.

The possibilities of biofeedback are as numerous as the systems that can be measured. Biofeedback allows the child to know the self better.

Dependency on Transfer

The D factor of the Matthews formula is perhaps one of the most important. It is the perceived long-range practical application, a transfer of the skill of stress management, to every-day living. The keyword is transfer. The whole process is concerned with managing excessive tension, the kind that distorts, maims, and kills.

After the students learn the essential skills, such as Time Management, Cognitive Restructuring, and Relaxation Techniques, especially with utilization of one from the many available methods, the students institute them, by way of schoolwide, structured classwork in the well planned and executed curriculum, and transfer them to all content areas at school and at home. Wholism is crucial, and the student must engage in daily practice of the skills that will make the difference in life. The entire school is involved and needs to be cognizant of making the effort. The situation is analogous to students throwing themselves behind athletic teams or supporting various community drives.

Outside of school, in the total environment, the student will be able to know how to achieve much without panic or wasted labor. The student will know that (1) frequent breaks during long-content periods prevent the notorious "brain fatigue"; (2) the student will profit from a few minutes set aside during the workday when the whole school performs relaxation exercises--uninterrupted, sustained relaxation (USR); (3) content area leaders will be part of the process, especially the aspects concerning visualization to be found in classes in language skills, social studies, science, and athletics: athletes actually perform better or at peak efficiency if they are masters of visualization and other

relaxation skills; and (4) using any kind of wait time for doing the exercises can work: wait-time, rest-time, the utilization of frequent self-interruptions in lengthy periods of study--all are practical and viable almost anywhere. The available times exist in a normal day and jump to cope with the alarm reaction.

Relaxation

The implementation in the school curriculum of the formula is A + B + C + D = R. The R factor, Relaxation, offers hope for a population free of the plagues of neuroses, perceptions of failure, and violence. School children, having moved through a school-wide, continous curriculum involving stress management, will feel themselves to be free and fully functioning individuals, persons in major control of their own lives. They will consider themselves as wielders of power, not as victims. They will know how to guide and concentrate their energies, not dissipate them nor allow them to destroy self, family, or community.

Already a movement, in existence at least since 1980, stresses thinking skills, based upon the notion of improving intelligence. Luis Machado, Venezuelan Minister of State for the Development of Intelligence in 1980 published the book, The Revolution of Intelligence, that has been influential ever since upon educators. Educators believe now that intelligence, at least that area of experience measured by tests, can be taught. The methods involve the whole brain and the entire body. When talking about thinking, it is now respectable to use terms such as intuition, imagery, and clustering. The behaviorist thrust seems to have crested in American education and educators are looking again at subjective experience as important to the total development of a person. The more recent development of cognitive psychology supplies a healthy blend of subjectivity and objectivity.

Educators can represent this blend in the curriculum. There would be a recognition of the interrelatedness of all the subject matter--the total involvement of mind with motor skill in dance, for example. The extension of such awareness could go into the legendary boardrooms of corporate America, where one could observe a decrease in the occupational diseases endemic there.

Conclusion

The objective of the Matthews Formula is a relaxed population, a final R put to the power of virtual infinity. It begins as an aggressive and consistent program in the schools, a model for widespread wellness. Young people will not look back at frustration and illness; they will have experienced wellness under the guidance of trained leaders. They will have revealed in their own expertise and independence. They will have been able to measure their own progress. They will know how to address and complete tasks.

The formula is one that is based upon knowledge and prudence. The curriculum must be the result of careful, informed, professional planning. Qualified personnel must administer it. They must be persons of sensitivity, aware of individual needs and community demands and requirements. School officials and teachers must work carefully with parents. All concerned must have commitment: those children who fail to respond will be few. Just as in any other school-wide endeavor, the Stress Management Program can generate its own enthusiasm. Above all, the students will obtain their own rewards as they go along, gain confidence, acquire poise, shape their aggressiveness to positive ends, conquer anxiety and timidity, and enjoy new feelings of worth and wellness across the spectrum of living.

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